Sector Performance Report

Primary Metals

May 2010

Ministry of the Environment

PIBS 7621e

Protecting our environment. Ontario

Executive Summary

In fiscal year 2008-09, the Ministry of the Environment conducted inspections of 49 primary metals facilities in the following subsectors:

- foundries
- cold-rolled steel shape manufacturing
- copper rolling, drawing, extruding and alloying
- aluminum rolling, drawing, extruding and alloying
- non-ferrous metal (except copper and aluminum) rolling, drawing, extruding and alloying.

Of the facilities inspected, 10 facilities (20 per cent) were fully in compliance with all legislative requirements. Thirty-nine facilities (80 per cent) did not meet one or more regulatory requirements but did not raise associated environmental or health concerns. All of the facilities were selected randomly and were located throughout the province of Ontario.

There were three main issues identified during the inspections:

- facilities either lacked the required Certificates of Approval for air emissions or failed to comply with the conditions of a Certificate of Approval
- wastes were retained on-site longer than 90 days without notifying the ministry
- a copy of the manifest was not retained at the facility for two years.

Following inspections of the 49 facilities, the ministry inspectors issued 37 notices of violation to 35 facilities, and four warning letters.

The ministry follows up on notices of violation and letters issued to companies to ensure corrective action has been taken and compliance has been achieved.

Compliance has been achieved in all facilities previously found to be out of compliance.

1.0 Introduction

To improve environmental performance and to ensure compliance with Ontario's environmental laws, the Ministry of the Environment conducts inspections of companies and sites in business sectors that have been known to have high non-compliance rates and/or the potential to significantly affect human health and the environment. The ministry also undertakes education and outreach initiatives to help individuals and companies comply with Ontario's environmental laws.

The Ministry of the Environment evaluated 73 functional industrial sectors on the basis of environmental consequences of incidents (such as spills and complaints) recorded from 2003 to 2006. The primary metals sector as a whole was ranked second.

The primary metals sector includes 13 subsectors. Facilities in the casting and foundries subsector were inspected in 2003-04. Due to high non-compliance found in that subsector, the ministry decided to re-inspect the casting and foundries subsector and assess compliance in other primary metals subsectors. This report summarizes the findings of the 2008-09 inspections.

2.0 Sector Profile

2.1 Primary Metals Subsectors

The primary metals sector, as defined by the North American Industry Classification System (NAICS), includes establishments that are primarily engaged in smelting and refining ferrous and non-ferrous metals from ore, pig or scrap in blast or electric furnaces. Metal alloys are made with the introduction of other chemical elements. The output of smelting and refining, usually in ingot form, is used in rolling and drawing operations to produce sheet, strip, bars, rods and wire, and in molten form to produce castings and other basic metal products.

The primary metals sector encompasses 13 related NAICS codes (Exhibit 1). These can be grouped into three functional categories according to their predominant activity:

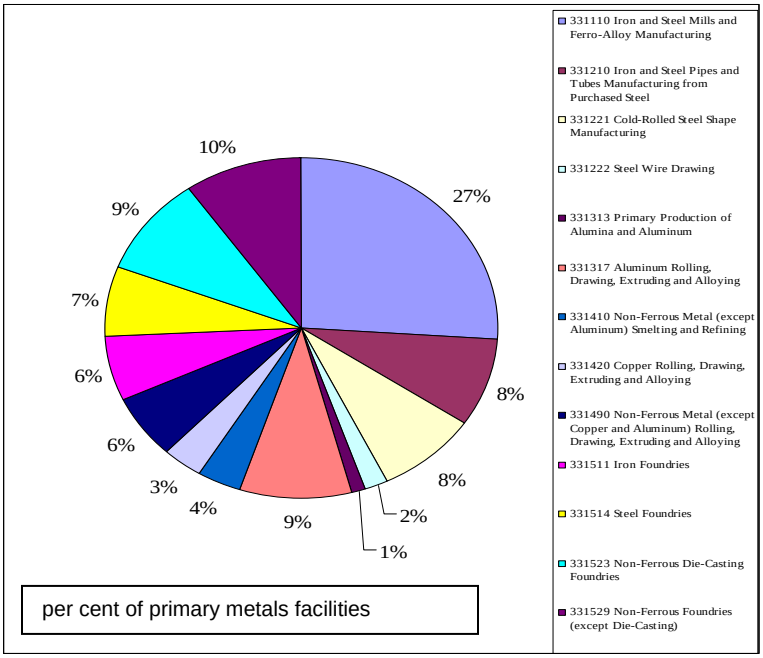
- metal production (steel mills and large smelting operations)
- foundries - metal casting and metal melting (pouring molten metal into moulds to produce castings)
- drawing, rolling and shaping of metal.

Exhibit 1
Primary Metal Subsectors
Source: Adapted from Statistics Canada website

NAICS codes	Title
331110	Iron and Steel Mills and Ferro-Alloy Manufacturing
331210	Iron and Steel Pipes and Tubes Manufacturing from Purchased Steel
331221	Cold-Rolled Steel Shape Manufacturing
331222	Steel Wire Drawing
331313	Primary Production of Alumina and Aluminum
331317	Aluminum Rolling, Drawing, Extruding and Alloying
331410	Non-Ferrous Metal (except Aluminum) Smelting and Refining
331420	Copper Rolling, Drawing, Extruding and Alloying
331490	Non-Ferrous Metal (except Copper and Aluminum) Rolling, Drawing, Extruding and Alloying
331511	Iron Foundries
331514	Steel Foundries
331523	Non-Ferrous Die-Casting Foundries
331529	Non-Ferrous Foundries (except Die-Casting)

Drawing, rolling and shaping of metal accounts for approximately 42 per cent of all primary metals manufacturing. Other notable subsectors include casting and foundries at approximately 32 per cent and iron and steel mills and ferro-alloy manufacturing at approximately 27 per cent (See Exhibit 2).

Exhibit 2
Diversity of Primary Metals Manufacturing Industry
Source: Adapted from Statistics Canada, Canadian Business Patterns, catalogue no. 61F0040XCB2008001, December 2007



2.2 Industry Size and Geographic Distribution

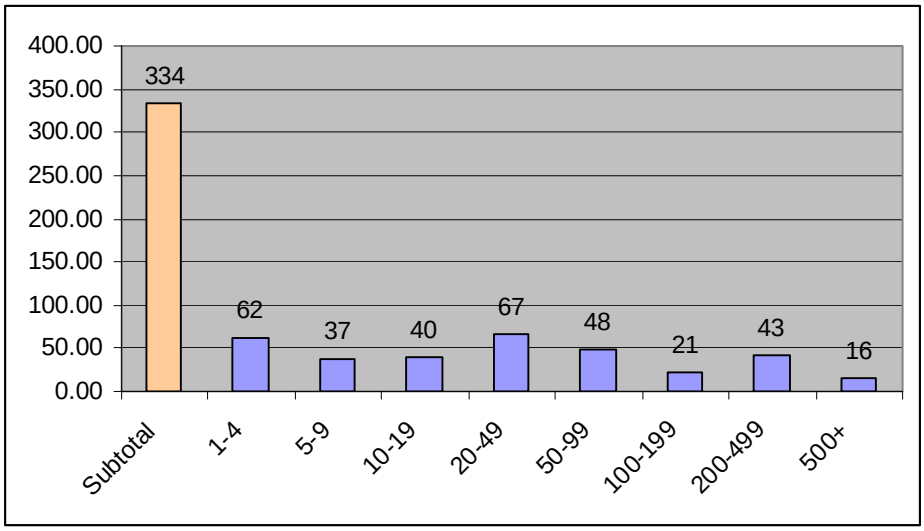
Analysis of business and industry registries shows that there are about 550 facilities in Ontario in the primary metals sector.

Facilities in the sector range from large integrated steel mills, which produce coke and refine iron and steel in enormous blast furnaces, to very small operations with only a few employees, which smelt, cast and forge metal into near-final specialty pieces.

Most of the primary metals facilities are concentrated in the Greater Toronto Area. Facility distribution by subsector is provided in Appendix I.

Most of the primary metals facilities have fewer than 100 employees (See Exhibit 3).

Exhibit 3
Industry size by number of employees
Source: Adapted from Statistics Canada, Canadian Business Patterns, catalogue no. 61F0040XCB2008001, December 2007

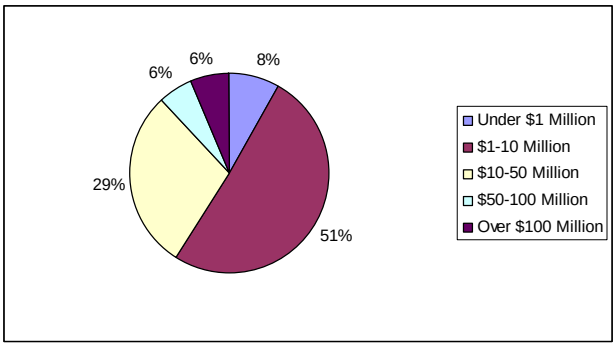


Note: Subtotal is facilities with employee information available

2.3 Sales Revenue

In 2007, 51 per cent of facilities estimated sales between one and 10 million dollars (See Exhibit 4).

Exhibit 4
Estimated Sales
Source: Adapted from Scotts Directories, 2007



Note: Analysis is based on sales information available for 390 facilities

2.4 Process description

Primary metals operations involve a wide range of processes, including extracting metals from ore, smelting and refining, casting, coating and extruding metals for the manufacturing industry.

Large rolled metal products, steel beams, piping and ingots are all made to be shaped, transformed or recast by secondary sectors.

Foundries melt ferrous and non-ferrous metals and alloys in one of several types of furnaces and reshape them into products at or near their finished shape through the pouring and solidification of the molten metal or alloy into a mould.

The casting of metals includes five basic operations:

(1) pattern making (2) mould and core preparation and pouring (3) furnace charge preparation and metal melting (4) shakeout, cooling and sand handling (5) quenching, finishing, cleaning and coating.

Common types of processes are defined in Appendix II.

2.5 Potential Environmental Emissions and Discharges

Air emissions from the manufacturing process typically include particulate matter (dust), carbon monoxide, metallic oxides, organic compounds, hydrogen sulfide, sulfur dioxide, nitrous oxide, benzene, phenols, and other air pollutants. The actual emissions depend on a number of factors including the type of metal poured, the type of furnace used, the cleanliness of the charge, the types of binders used and the melting and pouring practices employed. Emissions or discharges can occur at many points within the manufacturing process.

Dust is emitted from metal melting, sand moulding, casting, shakeout and finishing. The type and composition of the dust varies and may contain metal and metal oxides.

The use of coke as fuel, or the heating of crucibles and furnaces with gas or oil-fired burners can produce combustion by-products, such as nitrous oxide and sulfur dioxide. Additionally, the burning of coke and contaminated scrap (impurities of oil,

paint) can produce products of incomplete combustion such as particulate matter, carbon monoxide, and organic compounds.

In the making of moulds, various additives are used to bind the sand, which can result in reaction and decomposition products being generated. These products include inorganic and organic compounds (e.g. amines, volatile organic compounds), which can cause odours.

A key aspect of emission reduction is first to capture all sources and then treat the exhaust and off-gas flow. Failure to do so may result in the release of fugitive emissions, significant air pollutants that are due to equipment leaks, evaporative processes, and windblown disturbances, that can go unrecognized in emission inventories.

Sand is the largest by-product generated by volume in the foundry process. Used sand can be regenerated, re-used or disposed. Foundry sands from ferrous foundries are not usually considered to be hazardous and are sent to non-hazardous waste landfills. Some non-ferrous sands contain high quantities of heavy metals present in the waste, which require treatment before disposal.

Baghouses are commonly used to capture sand dust and other particulate matter. Baghouse dust, from moulds and shotblasting operations, is another large source of solid waste.

Other solid wastes generated through metal processing include: slag (withdrawn impurities), refractories (furnace and ladle linings), drums, metal scrap, timber pallet, and general foundry wastes like packaging and consumables.

Primary metals processes also produce small quantities of liquid by-product streams. The major sources are cutting fluids, hydraulic and other oils, solvents, waste paints, paint sludges, uncured and cured binders and waste catalysts (acids and bases).

Wastewater streams are also generated from quenching baths, cooling systems, wet scrubber air emission systems and other minor sources.

3.0 Legislative Framework

The Ontario Environmental Protection Act and the Ontario Water Resources Act apply to primary metals manufacturing facilities. Every facility that discharges a contaminant to air, including noise, or has on-site sewage works for the collection, transmission, treatment and disposal of sewage, other than to a municipal system, may require an approval from the ministry. Also, facilities that take more than 50,000 litres of water a day may require a permit. Ministry approvals and permits may set out terms and conditions of operation that the facility owner must comply with.

Summary of applicable provincial statutes, regulations and guidelines:

- Environmental Protection Act
  - Regulation 347 (General – Waste Management) any primary metals manufacturing facility that generates subject waste (hazardous or liquid industrial waste) is required to register annually with the ministry, to maintain records, and to properly store and dispose of waste in accordance with the regulations. Waste shipments must be undertaken by an approved waste carrier to an approved waste disposal site and must be manifested.
    - *Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities* - This document describes the environmental and health protection measures for chemical and waste storage areas.
    - *Registration Guidance Manual for Generators of Liquid Industrial and Hazardous Waste* - This manual assists waste generators, carriers and receivers to understand their obligations and facilitate compliance with the requirements of Regulation 347 with respect to the management of hazardous wastes and liquid industrial wastes.
  - O. Reg. 419/05 (Air Pollution - Local Air Quality) states that primary metals facilities must not exceed point of impingement standards (i.e. maximum levels) for air emissions.

- O. Reg. 127/01 (Monitoring and Reporting – Air Borne Contaminant Discharge) requires facilities to monitor emissions, and maintain, prepare and submit annual emission reports to the Ministry of the Environment.
- O. Reg. 562/94 (Effluent Monitoring and Effluent Control - Metal Casting Sector).
- O. Reg. 102/94 (Waste Audits and Waste Reduction Work Plans) requires that a manufacturing facility with greater than 16,000 work hours in a calendar month conduct an audit of the waste generated by the facility and prepare and implement a waste reduction work plan.
- O. Reg. 103/94 (Industrial, Commercial and Institutional Source Separation Programs) requires facilities to source separate certain materials from the waste stream in order that they can be recycled.

❑ Ontario Water Resources Act (Note: Wastewater discharged to municipal sewer is governed by local municipal sewer use by-laws.)

4.0 Past Environmental Performance

4.1 Hazardous Waste Information Network Review

All generators of subject waste (hazardous waste and liquid industrial waste) are required to register in the ministry's Hazardous Waste Information Network **(**HWIN) web-based system. The system tracks the types and quantities of subject waste generated and shipped for disposal.

The primary metals industry generates various types of wastes and some registered facilities generate more than one class of waste. In 2008, steel making residues, alkaline waste - other metals, and oil skimming and sludge were the top three wastes generated and shipped by the industry.

HWIN data revealed that 190 primary metals facilities registered their wastes in 2005 and 209 in the year 2008, a 10 per cent increase.

Overall, the total waste generated was reduced in 2008 when compared to 2005 and 2006, despite an increase in number of registered generators (See Exhibit 5). This reduction could indicate a move towards better waste management practices in the primary metals sector.

Exhibit 5
Registered Facilities Manifesting Waste and Total Subject Waste Generated

Year	Registered Facilities	Total Waste Generated (Kg)
2005	190	90,007,619
2006	207	90,946,876
2007	210	78,023,281
2008	209	81,829,619

Of the 49 facilities included in the sector inspections, 20 registered their wastes in HWIN in 2007 (prior to the sector inspections) and 26 registered in 2008 (during the sector inspections)

Data on the higher volume wastes are set out in Appendix III.

4.2 National Pollutant Release Inventory Review

The National Pollutant Release Inventory (NPRI) is Canada's legislated, publicly-accessible inventory of pollutants released, disposed and sent for recycling by facilities across the country. Industrial, institutional and commercial facilities which meet NPRI reporting requirements are required to report under the Canadian Environmental Protection Act, 1999. Environment Canada maintains the database to meet federal and provincial requirements.

Prior to 2007, all industrial, commercial, institutional and municipal sectors were required to monitor and report on over 350 substances annually when reporting thresholds were met, under O. Reg. 127/01, the Airborne Contaminant Discharge Monitoring and Reporting Regulation.

On February 20, 2008, Ontario amended O. Reg. 127/01 to streamline reporting requirements for businesses and harmonize all substances with NPRI except acetone, which is an additional substance reported under O. Reg. 127/01. This change means that facilities reporting under NPRI are now exempt from reporting under O. Reg. 127/01, with the exception of acetone.

A review of O. Reg. 127/01 data for the years 2005, 2006 and 2007 revealed that 162 primary metals facilities reported emissions in 2005, 154 facilities reported in 2006 and 145 facilities reported in 2007.

The majority of facilities are not subject to current reporting requirements because they are below reporting thresholds e.g. the mass reporting threshold for total particulate matter is equal to or greater than 20 tonnes per year and employees at the facility must have worked a total of 20,000 hours or more.

Exhibit 6
Total Air Release (2005 - 2007)

Year	Reporting Facilities	Total Air Release (Tonnes)
2005	162	102289
2006	154	94185
2007	145	97506

Note: Facility reported information for the year 2008 is not yet available for publication

Of the 49 inspected facilities, 15 facilities reported in 2006 and 16 facilities reported in 2007 (prior to the sector inspections). The top five substances reported by quantity were volatile organic compounds, particulate matter, trichloroethylene, toluene, and ethylbenzene.

4.3 Inspections History

A review of the ministry's data revealed that 11 of the 49 facilities selected for the sector inspections had already been inspected by the Ministry of the Environment 15 times since 2003. The reasons for these prior inspections varied: some focused on air requirements, others on waste, and some on PCB waste. Some facilities were re-inspected for the same media. Inspection results revealed that eight inspections (53 per cent) passed and seven (47 per cent) failed.

Failed inspections were due to: non-compliance with the requirement to obtain a Certificate of Approval (Air); failure to operate in accordance with a Certificate of Approval (Air); not registering in HWIN; not submitting a subject waste report; and a PCB storage site that did not operate in accordance with the standards specified in provincial guidelines. These inspections resulted in Provincial Officer Orders being issued to facilities.

5.0 Pollution Prevention Opportunities

The best way to reduce pollution is to prevent it in the first place. In the primary metals industry, there are effective pollution prevention options for many environmental concerns. Leaks, spills and emissions can be reduced by keeping chemical containers covered as often as possible, having spill contingency plans and training employees to properly handle and dispose of chemicals.

Good housekeeping practices such as prompt and thorough cleanup of spills, and proper waste management practices for the collection, storage and disposal of subject waste can reduce the contaminant levels in wastewater effluent and reduce fugitive emissions.

Emissions from furnace operations can be reduced through a number of factors:

- selection of furnace type
- proper operations (avoid over charging, over heating)
- reduction of contaminants in the charge (e.g. using clean scrap).

The amount of used sand sent to disposal can be reduced through re-use (appropriate for green sand) and through sand reclamation (chemically bound sand) techniques.

Opportunities to re-use and recycle metal contaminants in slag and pollution control dusts should be explored.

6.0 2008-09 Inspections - Compliance and Enforcement Activities

6.1 Inspection Approach

Ministry inspectors assessed compliance with all Certificate of Approval and regulatory requirements. Inspections covered the following:

- ***Certificate of Approval (Air)***
  Inspectors ensured that each company possessed a valid Certificate of Approval and that it operated in accordance with the conditions of that certificate. The inspectors reviewed process flows and potential pollutant outputs. They checked stack heights, inspected fume hood vents and waste processing equipment vents.

Inspectors also conducted visual inspections of buildings and properties for any evidence of air emissions and associated environmental impacts such as staining around air vents.

- ***Air Emissions***
  For facilities subject to O. Reg. 127/01, inspectors verified that they were properly monitoring emissions, and maintaining, preparing and filing reports through the "OWNERS" database, the current reporting portal, to meet federal and provincial requirements.

- ***Proper Handling and Management of Waste***
  Inspectors ensured that companies were in compliance with the requirements of Regulation 347 including preparation of waste generator registration reports, subject waste manifests (waste movement document conforms to all federal and provincial transport and environmental legislation), and 90 day storage reports.

- ***Waste Storage Areas***
  The inspectors verified that each company had adequate secondary containment for all waste storage areas.

- ***Certificates of Approval (Sewage Works) and Permits To Take Water***
  Where facilities discharged to the natural environment (e.g., discharge to storm sewer or creek), inspectors ensured that the company possessed a Certificate of Approval and that the sewage works were being operated in accordance with the terms and conditions of the certificate.

  Inspectors ensured that companies possessed a Permit to Take Water where required, if the company was taking more than 50,000 litres of water on any day by any means and that the company operated in accordance with the conditions of the permit.

- ***Reduce, Reuse and Recycling of Waste***
  Inspectors confirmed that manufacturing facilities with greater than 16,000 work hours in a calendar month conducted waste audits and prepared and implemented waste reduction work plans in accordance with O. Reg. 102/94.

  O. Reg. 103/94 requires those facilities to source separate specified materials from the waste stream for recycling. Inspectors verified that regulated companies also had source separation programs in place.

6.2 Inspection Results Summary

Forty-nine primary metals manufacturing facilities from the following subsectors were inspected:

- Cold-Rolled Steel Shape Manufacturing
- Aluminum Rolling, Drawing, Extruding and Alloying
- Copper Rolling, Drawing, Extruding and Alloying
- Non-Ferrous Metal (except Copper and Aluminum) Rolling, Drawing, Extruding and Alloying
- Iron Foundries
- Steel Foundries
- Non-Ferrous Die-Casting Foundries
- Non-Ferrous Foundries (except Die-Casting).

Of the facilities inspected, 10 facilities (20 per cent) were fully in compliance with all legislative requirements. Thirty-nine facilities (80 per cent) did not meet one or more regulatory requirements but did not raise associated environmental or health concerns. All of the facilities were selected randomly and were located throughout the province of Ontario.

There were three main issues identified during the inspections:

- 22 instances where facilities either lacked the required Certificates of Approval for air emissions or failed to comply with the conditions of Certificates of Approval
- 10 instances where wastes were retained on-site longer than 90 days without notifying the ministry
- eight instances where a copy of the manifest was not retained at the facility for two years .

Other non-compliance issues included having errors in the waste generator manifests completed by the facility or failing to submit a report in its role as a waste generator.

The primary metals sector inspection results and a map showing the location of facilities selected for inspection are given in Appendices IV and V.

6.3 Enforcement Action

When encountering environmental non-compliance, inspectors have several abatement tools available.

Following inspections of the 49 facilities, Ministry of the Environment inspectors issued 37 notices of violation to 35 facilities, and four warning letters. Some facilities were issued more than one type of abatement tool.

Each facility received a summary of the inspection findings and was given a reasonable time to comply with the legislated requirements. Each business was required to provide proof that they have complied with Ontario's environmental laws. Failure to provide acceptable confirmation of compliance could result in the company being referred for further investigation.

A list of compliance/enforcement tools is provided in Appendix VII.

6.4 General Observations

No major environmental concerns were identified during the primary metals sector inspections in 2008-09.

Most facilities adopted waste reuse practices by reusing metal scrap in the foundry process and sending used sand to cement plants. Some engineering processes were adopted to reuse by-products and re-circulate cooling water. There was no evidence of direct discharges of waste to the natural environment.

In general, facilities inspected in the primary metals sector had poor housekeeping practices, including: spills on the floor, container leakages, no containment, and improper storage. The facilities inspected had air pollution control equipment (baghouse) but many were not properly maintained.

6.5 Current Compliance Status

The Ministry of the Environment follows up on notices of violation and warning letters issued to facilities to ensure corrective action has been taken and compliance has been achieved.

Compliance has been achieved in all facilities previously found to be out of compliance. (Appendix VI).

7.0 Summary

The results and findings of the 2008/09 Primary Metals Sector Inspections found the following:

i) There was a high rate of non-compliance - 80 per cent.

ii) There were no adverse effects or immediate threats to the environment associated with the non-compliance. Contraventions included: no Certificate of Approval (Air) or non-compliance with a condition of a Certificate of Approval; wastes being retained on-site longer than 90 days without notifying the ministry; and a copy of a manifest not being retained at a facility for two years.

iii) Key outcomes of the inspection sweep included:

- facilities applied for and are in the process of obtaining Certificates of Approval (Air) and complied with the conditions of the Certificates of Approval (Air)
- facilities maintained air pollution control equipment to reduce emissions
- facilities managed waste properly
- facilities registered their subject waste in HWIN
- facilities filed on-site 90 day waste storage reports
- facilities shipped waste more frequently through an approved waste carrier to an approved waste disposal site
- facilities had prepared spill contingency plans to reduce the potential for adverse impacts.

Resource Materials

US Environmental Protection Agency Metal Casting Sector Handbook
Ontario environmental legislation
Ministry of the Environment inspection database systems
StatsCan, Scott's and other facility information databases

For more information about the sector findings,
Contact the Ministry of the Environment
Tim Struik - (416) 325- 9754 Email - Tim.Struik@ontario.ca
Rajeev Narang - (416) 314- 0335 Email - Rajeev.Narang@ontario.ca
Toll free: 1-866-482-9967

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Appendix I

Primary Metals Subsectors and Number of Facilities

(Source: Adapted from Scotts Directories, 2007)

NAICS	Title	Facilities
331110	Iron and Steel Mills and Ferro-Alloy Manufacturing	144
331210	Iron and Steel Pipes and Tubes Manufacturing from Purchased Steel	46
331221	Cold-Rolled Steel Shape Manufacturing	46
331222	Steel Wire Drawing	10
331313	Primary Production of Alumina and Aluminum	6
331317	Aluminum Rolling, Drawing, Extruding and Alloying	51
331410	Non-Ferrous Metal (except Aluminum) Smelting and Refining	20
331420	Copper Rolling, Drawing, Extruding and Alloying	17
331490	Non-Ferrous Metal (except Copper and Aluminum) Rolling, Drawing, Extruding and Alloying	34
331511	Iron Foundries	34
331514	Steel Foundries	37
331523	Non-Ferrous Die-Casting Foundries	51
331529	Non-Ferrous Foundries (except Die-Casting)	54
	Total	550

Appendix II

Primary Metals Manufacturing Process - Definitions

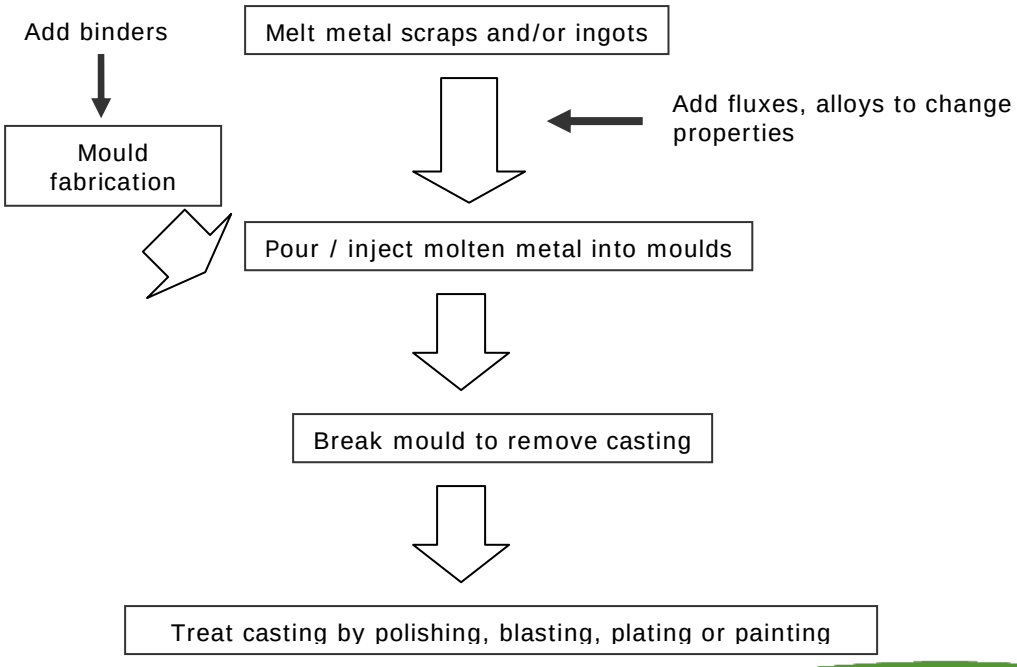
Smelting

Smelting is a form of extractive metallurgy; its main use is to produce a metal from its ore. This includes iron extraction (for the production of steel) from iron ore, and copper extraction and other base metals from their ores. Smelting uses heat and a chemical reducing agent, commonly a fuel that is a source of carbon such as coke, or in earlier times charcoal, to change the oxidation state of the metal ore.

Metal Casting

Metal casting involves pouring molten metal into a mould containing a cavity of the desired shape to produce a metal product. The casting is then removed from the mould and excess metal is removed, often using shot blasting, grinding or welding processes. The product may then undergo a range of processes such as heat treatment, polishing and surface coating or finishing. Sand is the most common moulding material.

Basic Casting process - (Source: U.S. Environmental Protection Agency**)**

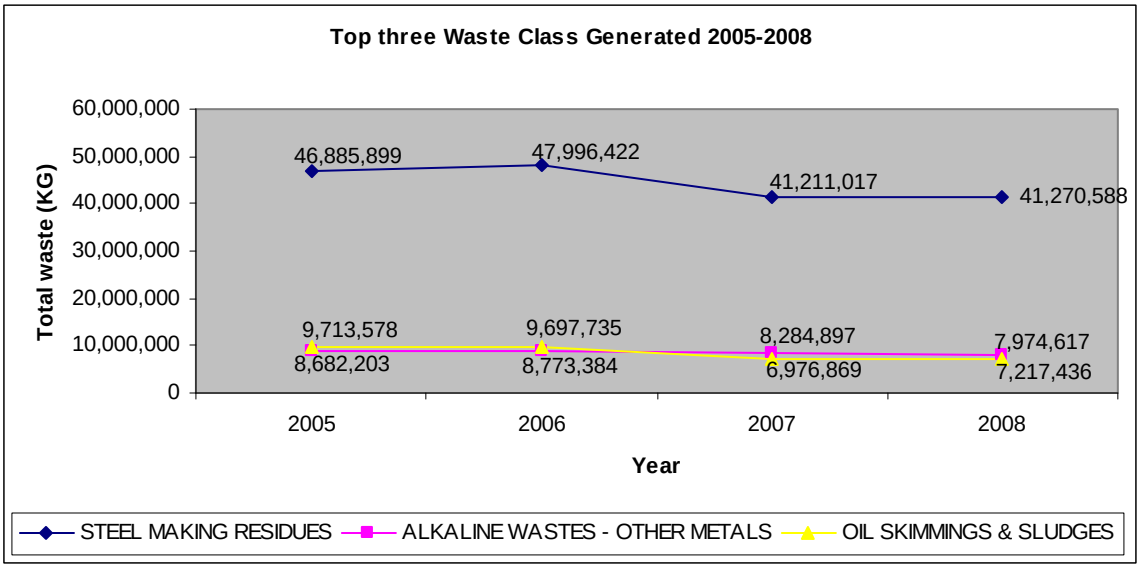

Add binders
Melt metal scraps and/or ingots
Add fluxes, alloys to change properties
Mould fabrication
Pour / inject molten metal into moulds
Break mould to remove casting
Treat casting by polishing, blasting, plating or painting

Metal Melting

Foundries melt metals in one or several types of furnaces depending on the type of metal being used.

Appendix III
Subject Waste Facts

- The top three wastes generated in 2008 by quantity were:
    - steel making residues (41,270,588 kg from eight facilities)
    - alkaline waste - other metals (7,974,617 kg from 47 facilities)
    - oil skimming and sludge (7,217,436 kg from 70 facilities).
- 2005 and 2008 annual comparison of waste shipped:
    - 14 per cent decrease in steel making residues waste
    - nine per cent decrease in alkaline wastes - other metals
    - 35 per cent decrease in oil skimming and sludge.

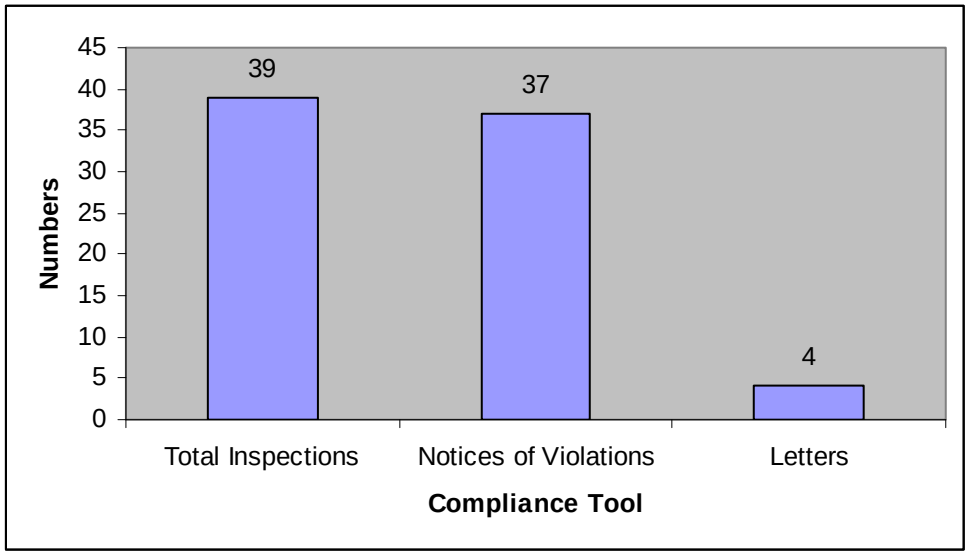


Appendix IV

Results of 2008/09 Primary Metals Sector Inspections
(Source: ministry's inspection database system)

Pass/Fail	# of Companies	per cent of Companies
Pass	10	20.4 per cent
Administrative Fail	39	79.6 per cent
Fail	0	0 per cent
Total	**49**	

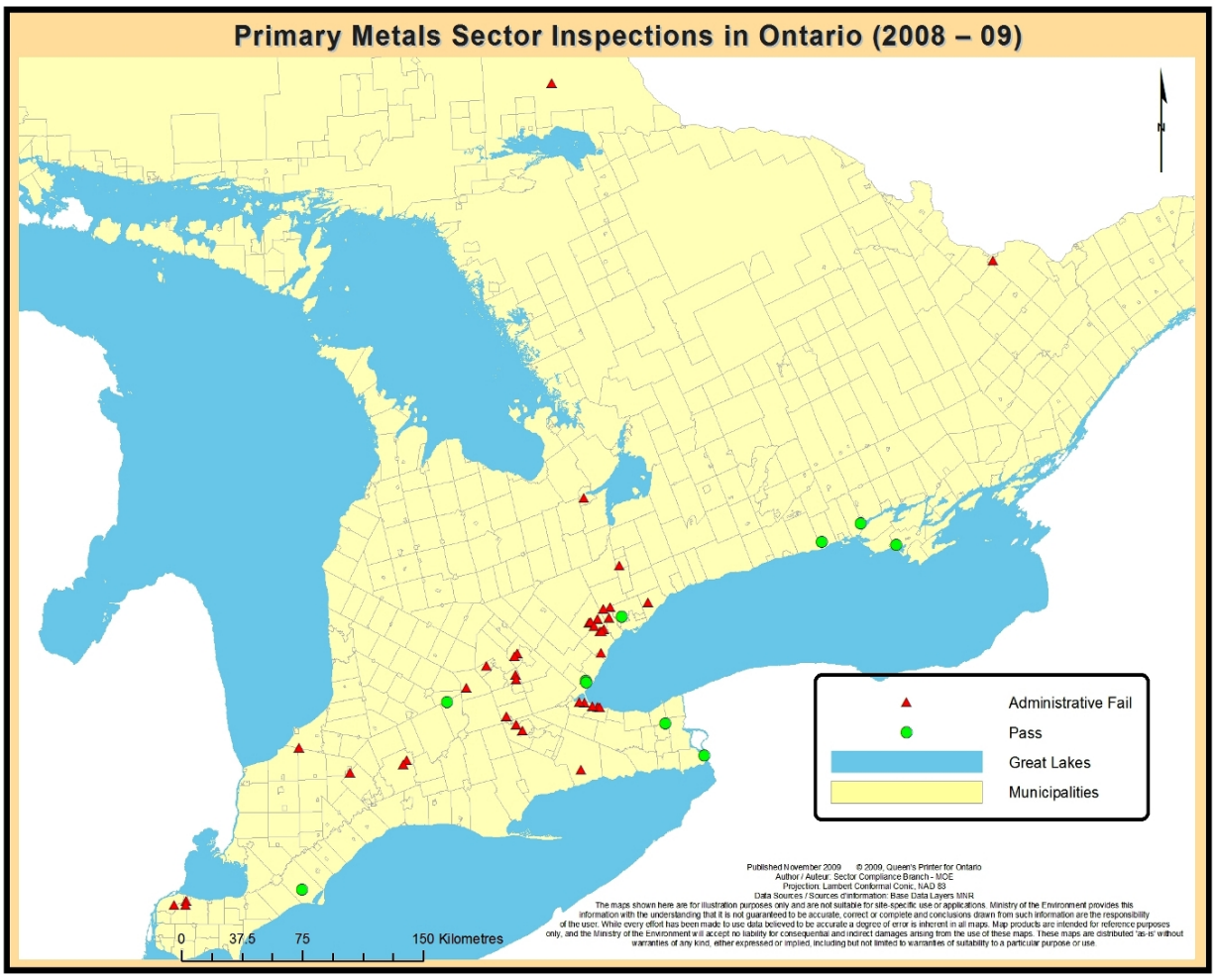
Enforcement Summary for Administrative Failed facilities (39 of the 49)



Note: Some facilities were issued more than one type of abatement tool

Appendix V

Geographical Distribution


Primary Metals Sector Inspections in Ontario (2008 – 09)
N
Administrative Fail
Pass
Great Lakes
Municipalities
0
37.5
75
150 Kilometres
Published November 2009 © 2009, Queen's Printer for Ontario
Author / Auteur: Sector Compliance Branch - MOE
Projection: Lambert Conformal Conic, NAD 83
Data Sources / Sources d'information: Base Data Layers MNR
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Appendix VI

List of facilities inspected in the Primary Metals sector (2008-09)

A. INSPECTION RESULTS: PASS

Company Name	Site Address	Site Municipality
1573010 Ontario Inc.	5 Industrial Dr.	Thorold
2027844 Ontario Inc.	325 Chatham Street North	Chatham-Kent
2033894 Ontario Limited	53710B Oxford County Road	East Zorra-Tavistock
Border City Castings	19 Warren Street	Fort Erie
Cer-A-Met Manufacturing Ltd.	16057 Loyalist Pky	Prince Edward County
Cutler Machine Company Limited	1080 Heritage Rd	Burlington
Hoselton Studio Limited	1 Hoselton Dr.	Cramahe
Marswell Metal Industries Ltd.	4130 Morris Dr	Burlington
Monarch Fabricating and Die	45 Colville Road	Toronto
Research Casting International Ltd	5 Dufferin Ave	Quinte West

B. INSPECTION RESULTS: VIOLATIONS WHERE NO ASSOCIATED ENVIRONMNETAL OR HEALTH CONCERNS IDENTIFIED (ADMINISTRATIVE FAIL)

COMPLIANCE ACHIEVED:

Company Name	Site Address	Municipality
1464012 Ontario Inc. o/a Alchemy-Casting	563 Kenilworth Avenue North	Hamilton
Alloy Casting Industries Limited	374 Hamilton Road	Wilmot
Almag Aluminum Inc.	22 Finley Road	Brampton
Alpha Foundry Inc.	2585 Drew Road	Mississauga
Alumabrite Anodizing Limited	20 Milburn Rd	Hamilton
Alumco Inc.	1070 Kohler Rd	Haldimand
Breyer Casting Technologies Inc.	246 Rutherford Road South	Brampton
Can Art Aluminum Extrusion Inc.	85 Parkshore Dr.	Brampton
Carpenter Die Casting Co. Limited	540 Queen Elizabeth Way	Hamilton
Castal Components Inc	60 Pacific Court	London
Castcraft	9 Allaura Boulevard	Aurora
CK Manufacturing	1735 Sylvestre Dr	Tecumseh
Concours Mold Inc.	3400 Etienne Blvd.	Windsor
Corma Inc.	6404 Townsend Line	Lambton Shores
Cottam Diecasting Ltd.	11886 County Road 42	Tecumseh
Crowe Foundry Limited	95 Sheffield St.	Cambridge
Diversa Cast Mfg., A Division of Linamar Corporation	94 Campbell Road	Guelph
Electric Power Accessories Corporation	558 Massey Rd	Guelph
Exothermal Industries Inc.	70 Belfield Rd	Toronto
Fike Canada Inc.	4400 Mainway	Burlington
Gulan Die Casting Ltd.	1919 Sismet Rd.	Mississauga
J.&K. Die Casting Limited	18 Golden Gate Crt.	Toronto
Kromet International Inc.	200 Sheldon Drive	Cambridge
K-W Ornamental Iron Works Ltd.	72 Schaefer St	Waterloo
Leader Products Mfg. Ltd.	175 Toryork Dr.	Toronto
Lincoln Electric Company of Canada LP	939 Gana Court	Mississauga
Magna Powertrain Inc.	1755 Argentia Road	Mississauga
McLean Foundry Limited	247 Colborne Street West	Brantford
Meridian Lightweight Technologies Inc.	155 High Street	Strathroy-Caradoc
Molten Metallurgy Inc.	20 Lee Avenue	Paris
Niagara Metallurgical Products Limited	400 Jones Rd	Hamilton
Norbel Metal Service Limited	100 Guided Court	Toronto

Company Name	Site Address	Municipality
Nu-Tech Precision Metals Inc.	460 McCartney Street	Arnprior
Obertec Limited	5329 Maingate Dr	Mississauga
ODC Manufacturing Ltd.	11 Morrow Road	Barrie
Ramsden Manufacturing	128 Oakland Drive	London
Skara Metal Foundry Limited	930 Kamato Road	Mississauga
TM Steel Fabrication and Installations Inc.	3.5 Hillyard Street	Hamilton
Wescast Industries Inc.	150 Savannah Oaks Dr.	Brantford

Appendix VII
Glossary of applicable terms

- **Inspection:** An on-site assessment of a regulated person, business or other entity (e.g. vehicle) by an inspector for the purpose of assessing compliance with environmental law. This must occur at the location of the regulated activity (fixed or mobile) to ensure that the potential for identifying violations exists.

- **Non-compliance:** Contravention of an act or regulation or not complying with the terms of an order, license or Certificate of Approval.

- **Non-compliance Rate:** proportion of inspected entities within a sector that had at least one violation. (Administrative Fails + Fails)/Inspections.

- **Incident**: A finding that a responsible person has committed a violation or a responsible person's activity has the potential to result in an adverse impact on human health or the natural environment.

- **Pass**: An inspection where no legislative violations were identified. The company is considered to be in compliance.

- **Administrative Fail:** An inspection where legislative violations were identified and/or a legislative authority was applied (e.g. Provincial Officer Order issued). The company is not in compliance but there are no indications of/potential for human health impact or environmental impairment.

- **Fail**: An inspection where legislative violations were identified and/or a legislative authority was applied (e.g. Provincial Officer Order issued). The company is not in compliance and there is/are indication(s) of/potential for human health impact or environmental impairment.

Enforcement/Compliance Tools - Definitions

Notice of violation:
Written warning to the inspected company, advising the company of actions it should take to come into compliance. Upon receipt of a notice of violation, it is up to the facility to ensure that the necessary measures are taken to achieve compliance.

Provincial Officer Orders:
Provincial Officer Orders (referred to as 'Orders') are legal instruments that identify the corrective action that companies or individuals must take in order to comply with Ontario's environmental laws. While Orders do not carry a monetary fine, they do often require an investment of both time and money/resources for the companies to comply.

Referral of companies to the Ministry of the Environment's Investigations and Enforcement Branch:
Potentially serious cases are referred to the Investigations and Enforcement Branch for further review and possible charges.